

SHCHENKOV, Serafim Aleksandrovich, prof.; KOROTKOVA, L., red.; MAZURKEVICH, M.,
red.; LEBEDEV, A., tekhn. red.

[Industrial accounting] Bukhgalterskii uchet v promyshlennosti. Izd.2.,
Moskva, Gosfinizdat, 1961. 415 p. (MIRA 14:8)
(Accounting)

SHCHENKOV, SERAFIM ALEKSANDROVICH

Bukhgalterskiy Uchet V Promyshlennosti. 2 Izd. Moskva, Gosfinizdat, 1961.

415 p; Charts, Tables.

Bibliographical Footnotes.

SIBIRYAKOV, Leonid Yefimovich; VEYTSMAN, N.R., prof., red.; TATUR, S.K.,
prof., red.; SHCHENKOV, S.A., prof., red.; IVANOV, N.N., red.;
TITOV, K.M., red.; NIKOL'SKIY, A., red.; TELEGINA, T., tekhn.red.

[Accounting for the utilization of materials in production]
Uchet ispol'zovaniia materialov v proizvodstve. Moskva, Gos-
finizdat, 1961. 81 p. (MIRA 15:4)
(Accounting) (Materials)

SHCHENKOV, Serafim Aleksandrovich, prof.; VEYTSMAN, N.R., prof., red.;
TATUR, S.K., prof., red.; IVANOV, N.N., red.; TITOV, K.M., red.
KOROTKOVA, L., red.; LEBEDEV, A., tekhn. red.

[Principles of accounting in industry] Osnovy bukhgalterskogo
ucheta v promyshlennosti. Moskva, Gosfinizdat, 1962. 97 p.
(MIRA 15:6)

(Accounting)

BYKOVA, Anna Leonidovna. Prinipali uchastiye: VEYSMAN, M.I.[deceased];
LUZIN, A.L.; SHCHENKOV, S.A., prof., red.; MEDVEDEVA, R., red.
izd-va; TELEGINA, T., tekhn. red.

[The theory of accounting] Teoriia bukhgalterskogo ucheta. Pod
red. S.A.Shchenkova. Moskva, Gosfinizdat, 1962. 352 p.
(MIRA 15:7)

(Accounting)

RATMIROV, Yuriy Aleksandrovich; SHCHENKOV, S.A., prof., otv. red.;
MEDVEDEVA, R., red. izd-va; LEBEDEV, A.A, tekhn. red.

[Accounting for labor and wages in industrial enterprises]
Uchet vyrabotki i zarabotnoi platy na predpriatii. Mo-
skva, Gosfinizdat, 1963. 58 p. (MIRA 16:6)
(Accounting)

VAL'CHAK, Tadeush [Walczak, Tadeusz]; SHCHENKOV, S.A., prof., red.;
MAZURKEVICH, M., red.izd-va; LEBEDEV, A., tekhn. red.

[Using punched card machines in standard accounting] Prime-
nenie schetno-perforatsionnykh mashin pri normativnom uche-
te. Moskva, Gosfinizdat, 1963. 108 p. (MIRA 17:2)

SECHENKOV, S.N., inzhener.

New technology of processing cocoons. Tekst.prom. 14 no.6:24-26
Je '54. (MLRA 7:7)
(Silk manufacture)

1. The following is a summary of the information received from the source.

2. The source has provided information regarding the activities of the group, which is a sub-group of the main group. The source has provided information regarding the activities of the group, which is a sub-group of the main group.

3. The source has provided information regarding the activities of the group, which is a sub-group of the main group. The source has provided information regarding the activities of the group, which is a sub-group of the main group.

4. The source has provided information regarding the activities of the group, which is a sub-group of the main group.

SHCHENKOV, S. I.

"Causes of decreased tear resistance of raw silk produced from silk cocoons of the white-cocoon breed and of hybrids, and methods of eliminating it." Min Higher Education USSR. Moscow Textile Inst. Moscow, 1956. (Dissertation for the degree of Candidate in Technical Science).

SO: Knizhnaya Letopis', No. 16, 1956

SHCHENKOV, S.N., inzhener.

~~and other methods of processing~~

Ways of reducing breakage of raw silk fibers. Tekst. prem. 16
no. 1:25-28 Ja '56. (MLRA 9:4)

(Silk manufacture)

ARIFOV, U.A., akademik; GUMANSKIY, G.A.; KLEYN, G.A.; PASHINSKIY, S.Z.;
SHCHENKOV, S.N.

Effect of gamma rays on the live silk cocoon. Dokl. AN Uz. SSR
no. 4:9-12 '57. (MIRA 11:5)

1. Akademiya nauk UzSSR (for Arifov). 2. Fiziko-tekhnicheskiy
institut AN UzSSR i Uzbekskiy nauchno-issledovatel'skiy institut
shelkovoy promyshlennosti.
(Gamma rays) (Silkworms)

ARIFOV, U.A.; GUMANSKIY, G.A.; KLEYN, G.A.; PASHINSKIY, S.Z.; SHCHENKOV, S.N.

Physical and technological properties of silkworm cocoons
killed by γ -rays. Izv. AN Uz. SSR. Ser. fiz.-mat. nauk
no.3:5-9 '58. (MIRA 11:10)

1.Fiziko-tekhnicheskii institut AN UzSSR.
(Silkworms) (Gamma rays--Industrial application)

SHCHENKOV, S.N., kand. tekhn. nauk, otv. za vypusk

[Theses of reports to the Congress of Engineers, Technical Specialists and Innovators of Uzbekistan Industry] Tezisy dokladov Vtorogo s"ezda inzhenerno-tekhnicheskikh rabotnikov i novatorov promyshlennosti Uzbekistana. Tashkent, In-t nauchno-tekhn. informatsii i propagandy Gos. nauchno-tekhn. kom-ty Soveta Ministrov UzSSR. Vol.4. [Section of the textile industry] Sektsiya tekstil'noi promyshlennosti. 1960. 24 p.

(MIRA 15:1)

1. S"ezd inzhenerno-tekhnicheskikh rabotnikov i novatorov promyshlennosti Uzbekistana. 2d.

(Uzbekistan--Industry--Congresses)

CHERNYY, Mikhail Davydovich [deceased]; TUMAYAN, S.A., retsenzent;
SECHENKOV, S.N., retsenzent; SOKOLOV, A.F., retsenzent;
SIMONOV, N.S., kand. tekhn.nauk, red.; SHTEYNGART, M.D.,
red.; VINOGRADOVA, G.A., tekhn. red.

[Reeling and silk twisting] Kokonomotanie i shelkokruchenie.
Moskva, Gizlegprom, 1963. 519 p. (MIRA 16:1C)
(Silk manufacture)

ACCESSION NR: AP4014371

S/0193/64/000/002/0028/0029

AUTHOR: Shehenkov, S. S.; Barok, S. G.

TITLE: AEGP-2 unit for welding in a carbon dioxide gas medium

SOURCE: Byul. tekhn.-ekon. inform., no. 2, 1964, 28-29

TOPIC TAGS: AEGP-2 welding unit, carbon dioxide gas welding, mobile welding unit, nonrotatable pipe butt, pipe laying

ABSTRACT: The AEGP-2 (2500 x 1900 x 2100 mm, wt 1700 kg), a mobile unit mounted on a two-axle dolly, is used for carbon dioxide gas welding of nonrotatable pipe butts. The unit system includes a GAZ-2 engine, two GST-9000 dc generators, two semiautomatic hose devices with controls, a carbon dioxide gas supply system, a cable coil, and a device for cleaning off and winding the electrode wire. The gas supply system has 4 tanks, a gas heater, reducer, and a hose leading to the semiautomatic devices. The tanks are connected to a common collector by coil pipes and can be disconnected separately without interrupting gas supply. An acetylene manometer serves as a gas meter. In 1961 the unit was tested during the laying of oil pipes

Card 1/2

SHCHERBAKOV, S.V., inzh.

Urgent problems in surveying and planning pipelines. Stroi.
truboprov. 5 no.5:9-10 My '60. (MIRA 13:9)
(Pipelines)

SHCHERBOV, S.V. inzh.

Valuable, practical manuals. Stroi. truboprov. 6 no.5:31-32 My '61.
(MIRA 14:7)

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SHCHENKOV, S.V.

Problems of the builders of the enterprises of the oil and gas industry of the Volga Valley and the Northern Caucasus. Stroitel. trub. 9 no.7:17-18 J1 '64. (MIRA 17:11)

1. Glavzapadneftegazstroy Gosudarstvennogo proizvodstvennogo komiteta po gazovoy promyshlennosti SSSR.

SHCHENKOV, V., kand.ekon.nauk

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Mr '61. (MIRA 14:2)

(Marketing research)

(Sampling (Statistics))

TSEYTLIN, D., kand.tekhn.nauk; SHCHENKOV, V., kand.ekonom.nauk

Studying the demand at an exhibition. Sov. torg. 36 no.3:11-15
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(Moscow—Commerce—Exhibitions) (Marketing surveys)

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Bul. TSIIN tsvet. met. no.19/20:73-78 '57. (MIRA 11:5)

(Aluminum--Electrometallurgy)

(Bauxite)

SPAGLIN, Georgiy Savell'yevich; SHCHENKOV, V.V., inzh.,
retsenzent; KRYZHKO, I.S., inzh., retsenzent;
CHERNOBROV, S.M., red.

[Electrolytic production of magnesium] Elektrolitiche-
skoe proizvodstvo magniia. Moskva, Metallurgiya, 1965.
150 p. (MIRA 18:7)

LI, Adrian Fedorovich; KHAZANOV, Yevsey Iosifovich; SHCHENKOV, V.V., red.:
EL'KIND, L.M., red.isd-va; KLEYMAN, M.R., tekhn.red.

[Light metals in Siberia] Legkie metally v Sibiri. Moskva, Gos.
nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1960. 55 p. (MIRA 13:9)

(Siberia--Light metals)

SHCHENKOV, Vlas Vladimirovich; NOVIKOVA, S.N., red.; PYATAKOVA, N.D.,
tekh. red.

[Statistical methods for studying consumers' demand] Statisti-
cheskie sposoby izucheniia pokupatel'skogo sprosa. Moskva,
Gosstatizdat, 1962. 79 p. (MIRA 15:12)
(Consumption (Economics))--Statistics

SHIRAZI, M. A.

Mr., Red Cross, Inc., 101, 101, 101, 101.

"A Contribution to the Biology of the Red Glove Tricholium Pratense L. under
North Conditions." Dok, AN, 5, No. 1, 1947.

SHCHENKOVA, M.S.; SINSKAYA, Ye.N., doktor biolog. i sel'skokhoz.nauk, otv.
red.; VAKHTIN, Yu.B., red.izd-va; KRUGLIKOVA, N.A., tekhn.red.

[Wild perennial forage plants of the Komi A.S.S.R. under natural
conditions and under cultivation] Dikorastushchie mnogoletnie
kormovye travy Komi ASSR v estestvennykh usloviakh i v kul'ture.
Moskva, Izd-vo Akad.nauk SSSR, 1961. 177 p.

(MIRA 14:1)

(Komi A.S.S.R.--Forage plants)

FRISMAN, M.P., starshiy nauchnyy sotrudnik; NIKOL'SKAYA, Ye.P., nauchnyy
sotrudnik; SHCHENKOVSKAYA, Ye.V., starshiy nauchnyy sotrudnik;
GOLOTINA, Z.S., nauchnyy sotrudnik

Treatment of syphilis with bicillin. Vest.derm.i ven. no.12:55--
59 '61. (MIRA 15:1)

1. Iz Ukrainskogo nauchno-issledovatel'skogo kozhno-venerologi-
cheskogo instituta (dir. - dotsent A.I. Pyatikop).
(SYPHILIS) (BICILLIN)

SHCHENNIKOV, A.

1A 1951/2

USSR/Radio - Transmitters

Jul 51

"Exciter for Short-Wave Transmitter," A.
Shchennikov. UA4FTs, Penza

"Radio" No 7, pp 23-27

Describes exciter delivering frequency-stable voltage to control grid of input tube in short-wave transmitter operating at 7,000 - 7,200, 14,000 - 14,400, 21,090 - 21,510 and 28,000 - 28,800 kc. The exciter has been tested since Aug 50 at station UA4FTs and showed good results, especially with regard to frequency stability.

195175

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Growing shelterbelts with perennial grass cover in the forest-steppe zone. Sov. Agron.
10 no. 5:29-31 Ap '62.

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sel'khoz. 6 no.12:54-55 D '56. (MIRA 10:1)
(Ammonia) (Fertilizers and manures)

SHCHENNIKOV, I.A.

Cooperative farms in China. Nauka i pered.op.v sel'khoz.7 no.1:91-
92 Ja '57. (MLBA 10:2)

(China-Agriculture, Cooperative)

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Steel main lines. Sov. profsoiuzy 17 no.1:20-24 Ja '61.
(MIRA 14:1)

1. Predsedatel' Dorozhnogo komiteta professional'nogo soyuza
rabotnikov zheleznodorozhnogo transporta Omskoy zheleznoy dorogi.
(Omsk Province--Railroads)
(Socialist competition)
(Omsk Province--Trade unions)

YEPIFANOV, Boris Yeimovich, dotsent; IONOV, Boris Dmitriyevich, dotsent;
KORUNOV, M.M., prof., retsenzent; SHCHELKUNOV, V.V., dotsent,
retsenzent; SHCHENNIKOV, P.N., dotsent, retsenzent; SMIRNOV,
A.I., dotsent, red.; PITERMAN, Ye.L., red.izd-va; YDOVIN, V.M.,
tekhn.red.

[Road-building machinery in the forest industries and principles
of road building] Dorezhno-stroitel'nye mashiny v lesnoi pro-
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1961. 376 p. (MIRA 14:12)

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(Road machinery) (Wood-using industries)

POGODIN, B.A., inzh.; SHCHENNIKOV, S.A.

Method for mechanized computation of production norms.

Energomashinostroenie 9 no.5:30-34 My '63. (MIRA 16:7)

(Electric machinery industry)

(Productivity accounting)

(Labor productivity)

AMIRKOV, N.M.; TIMOFEEV, N.M.; ~~SHCHERBACHOV, S.~~, starshiy inzhener,
KURASHOVA, O.I., redakt., ALIHA, Ye.I., tekhnicheskii redaktor

["Bread" pavilion; a guidebook] Pavil'on "Khleb"; putevoditel'.
Moskva, Pishchepromizdat, [1957] 35 p. (ML 4 10:10)

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(Moscow--Cereal products--exhibitions)

SHCHENIKOV, S. T.

SHCHENIKOV, S. T. (Candidate of Veterinary Sciences) Anaerobic dysentery of piglets.

So: Veterinariya; 23; 5-6; May/June 1946; Incl.
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S. CHENNIKOV, S. I.

S. I. CHENNIKOV, S. I. (Candidate of Veterinary Sciences, Scientific Research Veterinary Sanitary Laboratory, Executive Committee, Moscow City Soviet.) Therapeutic and toxic doses of osarsol for pigs.

So: Veterinariya; 23; (10-11); October/November 1946; Incl.
TABCON

SHCHEN'IKOV, S. T.

Doc Veterin Sci.

Dissertation: "Palantidiosis of Pigs."

9 Apr. 49

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SACHARENKO, A. I.

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SHCHENNIKOV, S.T.; PODLEGAYEV, MA.A; IVANOVA, N.M., redaktor; GOTLIB, E.M.,
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[Veterinary and sanitary inspection of poultry products] Veterinarno-
sanitarnaia ekspertiza ptitseproduktov. Moskva, Pishchepromizdat,
1954. 135 p. (MLRA 8:3)
(Poultry industry) (Meat inspection)

SHCHENNIKOV, S.T., doktor veterinarnykh nauk, professor; PETROVSKAYA,
I.G., kandidat veterinarnykh nauk.

Active immunization of chickens against laryngotracheitis. Veteri-
nariia 31 no.3:42-46 Mr '54. (MLRA 7:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ptitsepromysh-
lennosti.

✓ Testing the freshness of meat and fat of poultry. B. Shchennikov, B. Petrovskaya, L. Kustova, and K. Krasnikova. *Mysnaya Ind. S.S.S.R.* 26, No. 6, 61-3(1965).—

MD Spoilage tests based on bacteriol. examn., pH, ammonia reaction according to Nessler, peroxide reaction of the fat, albumin pptn. with CuSO_4 , H_2S , and acidity of the fat were compared with subjective organoleptic observations on the nonfrozen and frozen stored carcasses of chickens, turkeys, geese, and ducks. Some of the objective tests were useless and no individual test was satisfactory for all of the various test materials. Thus, a test based on peroxide value of the fat was fairly suitable for chicken but useless for detg. spoilage in carcasses of aquatic poultry. The authors recommend a combination of the following for evaluating freshness: organoleptic observations, bacteriol. examn., ammonia (Nessler method), and benzidine reaction for peroxides and detn. of free fatty acids in the fat. M. M. P.

(3)

SHCHENNIKOV, S. T.

E-3

USSR/Virology. Human and Animal Viruses.

Abs Jour: Ref. Zhur.-Biol., No 7, 1957, 28776.

Author : ~~Shchennikov, S. T.~~, Petrovskaya, E.A.

Inst : Not given.

Title : A Study of Immunogenic Properties of Dry Virus-Vaccine
of Infectious Hen Laryngotracheitis.

Orig Pub: Izucheniye immunogennykh svoystv sukhoy virusvaksiny
infektsionnogo laringotrakheita kur.
Tr. Vses. n.-i. in-ta ptitseprom-sti, 1956, 6,167-174.

Abstract: Viability of a virus-vaccine dried under vacuum at
temperatures from -8 to 10° is preserved for a period
of 530 days; the immunogenic properties of dry vaccine
were preserved for no less than 5.5 months. In a cloacal
method of infection the virus was found in internal or-
gans of the 26th day in hens vaccinated by dry virus-

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SHCHENNIKOV, S.T., doktor vet. nauk.; PETROVSKAYA, Ye.A., kand. vet. nauk;
MEL'NIK, R.I., mladshiy nauchnyy sotrudnik.

Sulfamethazine sodium in the prevention of pasteurellosis in poultry,
Ptitsevodstvo 8 no.9:36-38 S '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ptitsepereraba-
tyvayushchey promyshlennosti.
(Sulfamethazine)

SHCHERNIKOV, Stanislav Pavlovich, 1897; DEKHTER, M.I., 1897,
retiree; MIRNOV, A.K., prof., retiree; STABITVA,
S.M., red.

[Veterinary sanitary inspection at poultry processing
enterprises] Veterinarno-sanitarnyi kontrol' na ptitse-
pererabatyvalushchikh predpriyatiakh. Izd. 2. Moskva,
Pishchevaia promyshlennost', 1964. 166 p.
(MIRA 1749)

SHCHENNIKOV, V.V., and CHUSHKIN, P.I.,

"On the Calculus of Some Non-Axisymmetric Conical Flows"

report presented at the First All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 27 Jan - 3 Feb 1960.

SHORTYUEN, Y. (1977)

Calculating the laminar boundary layer along the surface of
a sublimable solid of revolution. *Adv. Mech. Math. Sci. Eng.*
5 no.1:13-17. Feb 1976. (NBS 13:4)

PAVLOVSKY, Yu.N.; SHCHENNIKOV, V.V. (Moscow)

"Numerical methods of analysis of the laminar boundary layer in a compressible gas"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

L 27397-65 EWT(1)/EWP(e)/EWP(m)/EWA(1) Pd-1/P1-4 RM

ACCESSION NR: AP5005794

S/0208/65/005/001/0139/0144

AUTHOR: Shchennikov, V. V. (Moscow)

TITLE: Calculation of laminar boundary layer along the generatrix of a subliming body of revolution

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 5, no. 1, 1965, 139-144

TOPIC TAGS: laminar boundary layer, sublimation, conservation law, finite difference method, Dorodnitsyn integral relations method, heat transfer, air flow over sphere

ABSTRACT: A method is described for establishing finite difference schemes for calculating the laminar boundary layer on the basis of the conservation laws. A system of differential equations of a two-dimensional laminar boundary layer is analyzed and the equations of conservation of mass, momentum, and energy are derived through using Gauss formulas. Boundary conditions on the body surface are established in difference form. The method is applied to calculations of the laminar boundary layers on three subliming spheres made of solid CO₂ of different radii (R = 3, 30, and 300 cm) in air flows. The effect of sublimation on heat transfer is evaluated

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ACCESSION NR: AP5005794

without taking account of chemical reactions, and curves of disintegration velocity distributions are plotted for various spheres. At the end the Dorodnitsyn method of integral relations is used to obtain finite difference schemes of higher accuracy. Orig. art. has: 7 figures and 12 formulas. [AB]

ASSOCIATION: none

SUBMITTED: 11Sep64

ENCL: 00

SUB CODE: ME

NO REF SOV: 004

OTHER: 001

ATD PRESS: 3192

Card 2/2

S/170/60/003/07/06/011
B012/B054 82232

/0.3000

AUTHORS: Chushkin, P. I., Shchennikov, V. V.

TITLE: Calculation of Some Axially Asymmetric Conical Flows

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 7,
pp. 88 - 94

TEXT: Conical supersonic gas flows without axial symmetry were investigated in the papers (Refs. 1-8). It is pointed out here that this mathematical problem is very complicated, and that it seems convenient to find the solution of the exact linear equations of this problem by means of numerical methods based on the use of electron computers. First, the authors investigate the equation of the problem set and the boundary conditions. The flow around an infinite cone is studied. The latter is placed in a uniform supersonic gas flow under an afflux angle α . It is assumed that the cone has a plane of symmetry and that the vector of the velocity w_{∞} of the oncoming flow lies in that plane. In the flow around the cone, a conical shock wave is formed in a certain range of w_{∞} (or the corresponding Mach numbers M_{∞}) and α . The

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peak of this wave coincides with the peak of the cone flowed around; the form of the wave, however, is not known before. The authors write down the differential equations, i.e. the equations of motion (1.1), (1.2), and (1.3), as well as the equation of continuity (1.4). The fifth equation written down is formula (1.5) for the adiabatic course. The Bernoulli integral (1.6) is taken instead of (1.1). The system (1.2) - (1.6) must be integrated under certain boundary conditions in the range between the shock wave and the cone flowed around. The authors write down formula (1.7) for the boundary condition on the cone flowed around and the equation system (1.8) for the boundary conditions on the shock wave. Finally, they indicate formula (1.9) for the derivations of the gas-dynamic functions. The problem is solved by approximation with the aid of the numerical method of integral relations by A. A. Dorodnitsyn (Ref. 9). The differential equations (2.5) are obtained. They can be integrated by the numerical method with the aid of an electron computer. The corresponding boundary problem can be solved by selection. The system (2.5) also contains a constant value of the entropy φ_0 on the surface of the cone flowed around. The determination

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Calculation of Some Axially Asymmetric Conical Flows S/170/60/003/07/06/011
B012/B054 82232

of this quantity depends on the character of the line of constant entropy. It is pointed out that the method described can only be used in such cases where the velocity component

$\sqrt{v_{\psi 0}^2 + v_{\theta 0}^2}$ on the surface of the body is smaller than the sonic velocity. Moreover, it is pointed out that it is possible to compare the approximate solution obtained with the available accurate solution if the differential equations (2.5) are applied to the case of an axially symmetric circular cone. In order to evaluate the accuracy of the approximation method described, it was first applied to the flow around a circular cone at $\alpha = 0$. The calculations were made by I. N. Naumova. Fig. 2 shows the results and compares them with the known accurate solution. Hence it appears that maximum accuracy is attained with high Mach numbers if the range between shock wave and cone flowed around becomes smaller. Figs. 3 and 4 show two further examples. There are 4 figures and 12 references: 7 Soviet and 5 British.

ASSOCIATION: Vychislitel'nyy tsentr AN SSSR, g. Moskva (Computing Center of the AS USSR, Moscow) 

Card 3/3

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S/208/61/001/005/006/007
A060/A126

10.3200

AUTHOR: Shchennikov, V. V. (Moscow)

TITLE: Calculation of a laminar boundary layer over a subliming surface

PERIODICAL: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 1,
no. 5, 1961, 869 - 883

TEXT: The work is devoted to the problem of calculating the laminar boundary layer in the vicinity of a subliming axially symmetric blunt body moving at high supersonic velocity. The equations and the boundary conditions of the problem are obtained. High temperature in the boundary layer occasions the presence of chemical reactions. A method is given for calculating the stationary process in the vicinity of the critical point of the blunt axially symmetric subliming body whose temperature and pressure satisfy either the condition for phase transition or the condition of evaporation. The assumption of a stationary process is justified by the following considerations. It is possible to imagine a special body which, in subliming, repeats its original shape. On the other hand, for any smooth body this assumption will have a basis if the sublimation rate is considerably lower than the velocity of the flow. A system of differential equations de-

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A060/A126

Calculation of a laminar boundary layer...

describing the stationary process of a μ -component gas mixture in which chemical reactions occur is derived from the equations of continuity, diffusion, motion, energy and state. The resulting system of equations is transformed into the Li2 form by recourse to Dorodnitsyn-Mangler. The boundary conditions are obtained by a method analogous to that of R. Bromberg, R. Lipkis (Ref. 4; Heat transfer in boundary layer with chemical reactions due to mass addition, Jet Propuls., 1958, 25, no. 10, 655 - 656). The solution of the obtained system of equations for the boundary layer at a critical point is found in the form of a power series expansion. A numerical calculation is carried out for the case of a graphite body submerged in a flow of oxygen. The effect of thermal diffusion is neglected. It is assumed that the six components (C , C_2 , CO , CO_2 , O , O_2) present in the boundary layer, interact according to the following four independent reactions (all possible combinations except the trivial ones):



The boundary problem was solved by matching parameters. For each given accommodation coefficient of the body surface σ the initial conditions were found for some of the parameters and the differential equations were integrated by the Runge-Kutta method with uniform interval. The computations were carried out for $\sigma = 1$;

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30738

S/208/61/001/005/036/007
A060/A126

Calculation of a laminar boundary layer...

0.1, 0.0313, 0.00314, 0.000313, with initial conditions $p_e = 0.9815$ atm, $T_e = 6660.8^\circ\text{K}$, $R = 1$ m. The phase-transition temperature for this case was $T^* = 4163^\circ\text{K}$. Four graphs summarize the calculated results. The method allows one to determine the sublimation rate v_0 and the thickness of the boundary layer δ for each of the calculations as a function of A . The calculations have shown that the state of phase transition cannot be reached in practice since it corresponds to very low values of A . It is concluded that in calculating the evaporation in the laminar boundary layer in the presence of chemical reactions, the partial pressure of the vaporized component is considerably below the pressure of saturated vapor of that component. There are 23 references: 8 Soviet-bloc and 15 non-Soviet-bloc. The references to the 4 most recent English-language publications read as follows: R. Bromberg, R. Lipkis. Heat transfer in boundary layer with chemical reactions due to mass addition. Jet Propuls., 1958, 28, no. 10, 668 - 675; S. M. Scala. Vaporization into a hypersonic laminar boundary layer. J. Aero-Space Sci., 1958, 25, no. 10, 655 - 656; S. M. Scala, Ch. W. Baulknight. Transport and thermodynamic properties in hypersonic laminar boundary layer. Part 1. Properties of pure species. ARS J., 1959, 29, no. 1, 39 - 45; Th. K. Sherwood. The properties of gases and liquids, their estimation and correlation. N. Y. - Toronto - London, 1958.

SUBMITTED: April 17, 1961

Card 3/3

8E825

S/129/60/000/07/011/013
E193/E235

187100

AUTHORS: Belinkiy, A. L., Candidate of Technical Sciences, and
Shchennikova, A. A., Engineer

TITLE: Investigation of an Accelerated Method of Heat Treatment¹⁸
of Precision Steel Castings Produced by the Lost Wax
Technique₁₄

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,
1960, No. 7, pp. 55-57 + 1 plate

TEXT: To improve the mechanical properties of precision castings, made of medium carbon steel, it has been the practice, adopted at a certain plant, to subject them to a prolonged heat treatment, during which the castings were heated to 900°C in 3 h, held at the temperature for 3 h, cooled to 650°C in 1 h, held at the temperature for 3 h and then cooled slowly to room temperature (total - 11 h). The object of the present investigation was to explore the possibilities of shortening this heat treatment without affecting its efficiency. To this end, U.T.S., elongation, impact strength, hardness, and microstructure were studied on test pieces prepared from tapered castings made of two carbon steels, 45L (0.43% C) and
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S/129/60/000/07/011/013

E193/E235

Investigation of an Accelerated Method of Heat Treatment of Precision Steel Castings Produced by the Lost Wax Technique

25L¹⁸(0.28% C), the analysis of which is given in Table 1. The heat treatments studied included normalising at temperatures between 900 and 870°C for periods ranging from 3 to 0.5 h, alone or followed by a supplementary treatment at a lower temperature (670 to 630°C) lasting 3 to 0.5 h. Cast iron shavings were used to protect the test pieces from oxidation and decarburisation during the heat treatment. The following conclusions were reached: (1) There is no need to employ a long heat treatment of steels 45L and 25L, since the properties obtained after this treatment can be also obtained by short-time normalising treatment. (2) The application of an additional heat treatment at a lower temperature brings no significant improvement in the mechanical properties of normalised steel. (3) The heat treatment, recommended for precision castings made of steels 45L and 25L, consists of normalising at 870°C for 45 min. Steel 25L, heat-treated in this manner has U.T.S. = 53.8 kg/mm², elongation = 19.3%, hardness

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S/129/60/000/07/011/013
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Investigation of an Accelerated Method of Heat Treatment of
Precision Steel Castings Produced by the Lost Wax Technique

(Brinell) = 164 kg/mm^2 , and impact strength = 5.3 kgm/cm^2 , the
corresponding figures for steel 45L being 62 kg/mm^2 , 13%, 177 kg/mm^2 ,
and 4 kgm/cm^2 . There are 4 figures, 4 tables and 3 Soviet
references.

Card 3/3

✓

ACC NRI AP6012235 I.F.(*) JD/HNSOURCE CODE: UR/0129/66/000/004/0022/0026

AUTHOR: Karnov, M. Ya.; Shchennikova, A. Ye.

ORG: none

TITLE: Effect of the vibration method of plastic deformation on the structure of metals

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no 4, 1966, pp 22-26

TOPIC TAGS: steel, aluminum alloy, vibration stress, static pressure, cold forging/40KhNMA steel, VD17 aluminum alloy

ABSTRACT: The authors investigated the fine crystalline structure, residual microstresses and microhardness of 40KhNMA steel and VDL7 aluminum alloy in specimens subjected to the static and vibration methods of plastic deformation (cold upsetting), with the object of selecting the most rational die-forging technique. The stressed state of the specimens was determined with the aid of an MF-4 photometer, and the crystal lattice distortions, by means of a radiographic examination. Findings: the width of the X-ray lines increases with increasing degree of deformation, but the experimental points for the specimens cold-upset by the vibration method lie below the points for the specimens cold-upset by the static method; this indicates that

Card 1/2

UDC: 539.433:620.18

L 32616-66

ACC NR: AP6012235

the replacement of the static loading method with the vibration loading method during the plastic deformation of specimens reduces the extent of crystal lattice distortions for the materials investigated. Moreover, in the vibration-loaded specimens microdistortions and microstresses are more uniformly distributed than in the statically loaded specimens. The vibration method of die forging is much more effective than the static-loading method, and it also has the following additional advantages: technological plasticity increases to 50%, unit pressure during deformation is 35% lower, dimensional precision increases 1.5-2 times, and the durability of press tools increases 5-8 times. Orig. art. has: 6 figures, 2 tables. 18

SUB CODE: 11, 13

SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 2/2 *SD*

PROCESS AND PROPERTIES INDEX

6

Reduction of complex iodides of lead and of mercury on the dropping mercury cathode. N. I. Malynkina, M. K. Shechenikova, and I. A. Korshunov (Gor'kii State Univ.). *J. Gen. Chem.* (U.S.S.R.) 16, 1573-6 (1946) (in Russian). With the concn. of KI in soln. rising from 0.8 to 2.0 N, the half-wave potential ϵ of Pb^{++} changes from -0.50 to -0.638 v.; for Hg^{++} , with KI from 0.05 to 1.0 N, ϵ shifts from -0.20 to -0.45. From the slopes of the straight lines ϵ vs. log concn., the coordination no. of the complexes, in both cases, is 4. Taking for the ϵ values of the simple hydrated Pb^{++} and Hg^{++} ions, -0.388 and +0.355 v., resp., one finds for the instability const. of the complex iodides: $Pb^{++} \cdot 10^{-12}$, $Hg^{++} \cdot 10^{-12}$.

N. Thon

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

SUBJECT INDEX		AUTHOR INDEX	
ALPHABETIC	CYCLIC	ALPHABETIC	CYCLIC
1	2	1	2
3	4	3	4
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71	72	71	72
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75	76	75	76
77	78	77	78
79	80	79	80
81	82	81	82
83	84	83	84
85	86	85	86
87	88	87	88
89	90	89	90
91	92	91	92
93	94	93	94
95	96	95	96
97	98	97	98
99	100	99	100

CA
Polarographic determination of metals in used lubricating oils. I. A. Koshunov and M. K. Shchennikova, *Zhurnal Prikl. Khim.* 13, 682-6 (1947) in Russian.—Polarography is used as a quick method of analysis for Cr, Fe, Sn, Pb, and Cu in used lubricating oils. Cu detn.: To 50 ml. of sample add 1.2 g. NH_4Cl , heat, add concd. NH_4OH in small increments until a brown ppt. appears, filter, transfer the filtrate to a 100-ml. measuring flask. Wash the ppt. with H_2O ; combine washings with filtrate and dil. to 100 ml. Polarograph a 5-10-ml. sample at 0.2-1.2 v. in H atm. Fe, Sn, and Pb detn.: Dissolve on the filter with 30 ml. hot 2 N HCl the ppt. obtained after adding NH_4OH in the Cu detn.; wash with H_2O and dil. the filtrate to 50 ml. The presence of Sn is insignificant. A sample polarographed at 0.4-0.6 v. in H atm. results in a reading for Fe, Sn, and Pb. Add cryst. $\text{K}_3\text{Fe}(\text{CN})_6$ to ppt. Fe. Polarograph the sample. The difference in readings is a measure of the amt. of Fe present. Detn. of Pb and Sn: To 10 ml. of soln. contg. Fe, Sn, and Pb add 10 ml. concd. H_2SO_4 and evap. to a small vol.; add 50-60 ml. cold H_2O and 5-6 ml. concd. HCl to prevent hydrolysis of Sn salt. Add 10 ml. of 2 N $(\text{NH}_4)_2\text{C}_2\text{O}_4$ and concd. NH_4OH until faintly alk., heat to boiling, and filter. Wash the ppt. $\text{Sn}(\text{OH})_2$ on the filter with 0.5 N $(\text{NH}_4)_2\text{C}_2\text{O}_4$, and add washings to the filtrate. Evap. to 10-15 ml., dil. with 30 ml. 2 N HCl, and make up to 50 ml. with H_2O . Polarograph the soln. contg. Pb in a H atm. Det. Sn by dissolving $\text{Sn}(\text{OH})_2$ ppt. with 30 ml. of 2 N HCl; dil. the filtrate to 50 ml. Polarograph the soln. in a H atm. Cr detn.: neutralize a 10-ml. sample with approx. 0.5 g.

Na_2CO_3 . Displace Cu in soln. by boiling with 0.5 g. Zn dust. Filter. Place the filtrate in a 25-ml. measuring flask. Wash the residue with dil. HCl and H_2O . Introduce SO_2 in Cu-free soln. After adding 5 ml. of Zn amalgam and agitating, polarograph the soln. at 0.2-1.0 v. in H atm. Det. hexavalent Cr in an alk. medium using Rochelle salt to retain Fe in soln. To 20 ml. sample add 10 ml. of 0.5 mol. soln. of Rochelle salt, 40 ml. of 4 N KOH soln., and 20 ml. of satd. bromine water. Boil, evap. to 50 ml. Polarograph a portion of the sample in H atm. Read the Cr content from a known graph in which a standard Cr soln. in 1 N KOH and 1 mol. Rochelle salt soln. is polarographed at 0.1 v.

(Continued on next page)

Polarographic study of some mercury ion complexes in solution. M. K. Shchennikova and I. A. Korshunov (State Univ., Gorkii). *J. Phys. Chem. (U.S.S.R.)* 21, 215-18(1947)(in Russian). Anodic polarization of a dropping-Hg electrode in solns. of NH₄ citrate (I) and of Seignette salt (K Na tartrate) (II) results in formation of insol. complexes of Hg²⁺. The height h of the anodic wave in a soln. of $NKNO_3 + 0.5 N I + Hg(NO_3)_2$ increases linearly with the concn. of Hg²⁺; apparently Hg²⁺ gives Hg₂²⁺ at the metal surface, and Hg₂²⁺ is oxidized by the current. h is proportional to the concn. of I between 0.2 and 0.7 N. The half-wave potential is $0.265 - 0.065 \log C$ for I and $0.248 - 0.11 \log C$ for II, referred to a Hg_2Cl_2/Hg electrode. No limiting anodic current can be obtained in KI solns. The cathodic wave is not similar to the anodic; this shows that the electrode processes are irreversible. The cathodic h is almost independent of C . The half-wave potential is $0.260 - 0.108 \log C$ for I, $-0.218 - 0.106 \log C$ for II; and $-0.402 + 0.126 \log C$ for KI. The coordination no. is 2 for both I and II, and 4 for KI. The compd. formed from Hg and KI is, consequently, K_2HgI_4 . I. I. Bikerman

AS & SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM 550-11174

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SHCHENNIKOVA, M.K.

PA 67T20

USSR/Chemistry - Reduction Apr 1948
Chemistry - Quinoline Derivatives

"Reduction of Pyradine, Quinoline and Derivatives of
Quinoline in Mercury-Drop Electrodes," M.K.
Shchennikova, I.A. Korshunov, Gor'kiy State U, 9 pp

"Zhur Fiz Khim" Vol XXII, No 4 pp. 503-12

Determine that character of the reduction and depth
of hydrogenation is greatly dependent on the con-
centrations of hydrogen ions in solution. Reduc-
tion of quinoline and o-oxyquinoline on mercury-drop
electrode shows decrease of overvoltage. Submitted
27 Jun 1947.

~~TOP SECRET~~

67T20

SHCHENNIKOVA, M. K.

USSR/Chemistry - Polarographs
Chemistry - Ions, Electrolytic

1949

"A Polarographic Characteristic of Several Inorganic Ions," I. A. Korshunov,
M. K. Shchennikova, Sci Res Inst Chem, Gor'kiy State U, 8 3/4 pp.

"Zhur Analit Khimii" Vol IV, No 1 - p.5-13

Data characterizes the reduction of ions of inorganic materials on a mercury drop electrode using electrolytes of different composition. Describes base solutions most suitable for quantitative determination of ions of bivalent and trivalent iron, nickel, cobalt, mercury, hexavalent chromium, manganese, hexavalent molybdenum, and uranium, and for nitrous acid ions. Eight tables show composition of metals. Includes graphs of anode waves. Submitted 3 Apr 47.

PA 29/49T20

SHCHENNIKOVA, M. K.

PA 153T12

USSR/Chemistry - Reduction, Electro- Nov 49
Polarography

"Polarographic Determination of Phthalimide, Isatin, Dioxyindole, and Indigocarmine," I. A. Korshunov, L. M. Sazanova, M. K. Shchennikova, O. P. Malkova, Inst of Chem, Gor'kiy State U 3 1/2 pp

"Zavod Lab" No 11

Shows that all subject compounds can be reduced on the mercury-drop cathode. Phthalimide can be determined quantitatively only in acid solution, while isatin and dioxyindole, in alkaline solution

153T12

USSR/Chemistry - Reduction, Electro- Nov 49
(Contd)

as well. Indigocarmine can be determined in mediums of any pH value. Includes two graphs.

153T12

30499. KOSLOVA, T. A., and BOKAL, E. . i SIVILIN, A. A. Rossiyskoye Sobyetskoye Soyuz na Atomnoy Energiiom Krole. Zhurnal Khim. Khimii, 1949, Vp. 11, c. 142 - 143.

30: Istoy's' Journal'n'ykh Statey, vol. 10, Moskva, 1949

2

CA

Composition and instability constant of the complex
mercury thiocyanate ion. I. A. Korshunov and M. K.
Sachennikova (Gorki State Univ.). *J. Gen. Chem.*
U.S.S.R. 19, No. 10, 273-4 (1949) (English translation).
—See *C.A.* 44, 909i.
E. J. C.

SHCHENNIKOVA, M.K.

Polarographic investigation of the kinetics of the formation of isatinic acid. ✓ I. A. Kershunov and M. K. Shchennikova (Gor'kovskii State Univ., Gor'ki). *Zhur. Fiz. Khim.* 24, 813-19 (1950). — Isatin was reduced on a dropping-Hg cathode in acid, neutral, and alk. solns., and 4 different diffusion waves with different half-wave potentials were seen. The kinetics of the reduction were studied at several pH values and the rate of the reaction was found to depend on the pH and the compn. of the soln. The energy of activation of the reaction was detd. in various buffered solns.

Paul W. Howerton — 14

SHCHENNIKOVA, M. K.

Journal
Polarographic determination of the concentration of weak acids
 I. A. Korshunov, Z. B. Kuznetsova, and M. K. Shchennikova (Gorki State Univ., Gorki, U.S.S.R.).
Zhur. Anal. Khim. 6, 98-100 (1951).—The concns. of formic, acetic, isobutyric, isovaleric, chloroacetic, dichloroacetic, trichloroacetic, oxalic, malonic, tartaric, citric, maleic, pyrotartaric, succinic, adipic, benzoic, mandelic, gallic, phthalic, salicylic, acetylsalicylic, anthranilic, sulfanilic, naphthionic, cinnamic acids, *N*-acetylsulfanilamide, sulfathiazole, sulfazole, and *N*-sulfanilil-sulfanilamide, all having 1st dissocn. consts. above 10^{-4} were detd. polarographically with a neutral auxiliary electrolyte, $N(CH_3)_4I$. Acids having their 1st dissocn. const. below 10^{-4} , e.g., sulfidine, sulfanilamide, and boric acid, could not be detd. Between the coeff. of the diffusion current (K_d) and the colog. of the 1st dissocn. const. (pK) there is a direct relation expressed by $K_d = 5.25 - 0.725 \text{ pK}$.
 M. Hoseh

Shchennikova, M.K.

AID P - 1023

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 8/8

Authors : Shchennikova, M. K. and Korshunov, I. A. (Gor'kiy)

Title : Remarks on the article of Yu. S. Musabekov "I. M. Sechenov's work in chemistry and his letters to Butlerov" (Letter to the editor)

Periodical : Usp. khim., 23, no. 4, 527-528, 1954

Abstract : Critical review. Nine references (Russian: 1937-1953).

Institution : None

Submitted : No date

SHCHENNIKOVA, M. K.

8

27

Determination of solubility of carbon dioxide in aqueous solutions of sodium sulfates and mixtures of sodium sulfates with sulfuric acid by means of isotopic dilution. M. K. Shchennikova, G. G. Devyatikh, and I. A. Korshunov (N. I. Lobachevskii State Univ., Gorki). Zhur. Priklad. Khim., 30, 1080-4 (1957); Cf. C.A. 51, 18080g. — The soly. of CO_2 in Na_2SO_4 0.4-3.86 N (2.84-20%) in 48% H_2SO_4 and in 0.4-1.24 N Na_2SO_4 in 30, 4.8, and 2.3% H_2SO_4 at 25-86° was detd. by the method of isotopic diln. (loc. cit.). N_0 mol. frac- tion, decreased as the temp. and concn. C (mol./l.) of Na_2SO_4 increased. The plots $\log(N_0/N_1)$ vs. C were linear functions, $\log(N_0/N_1)$ increased with C . In H_2O and $K_2\text{SO}_4$, $N_0 = N_1$, where N_1 is the soly. of CO_2 in H_2O and $K_2\text{SO}_4$ at 25, 30, 40, 50, and 75° was 0.85, 0.67, 0.70, 0.80, and 1.63, resp. I. B. Ryzhikov.

SOV/81-59-5-15248

5.3200
Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 5, p 167 (USSR)

AUTHORS: Shushunov, V.A., Shchennikova, M.K., Volkov, I.V.

TITLE: The Catalytic Decomposition¹ of Organic Peroxide¹ Compounds.
II. The Kinetics of the Decomposition of Cumene α -Hydroperoxide, Catalyzed by Stearates of Certain Metals

PERIODICAL: Tr. po khimii i khim. tekhnol., 1958, Nr 1, pp 55 - 59

ABSTRACT: The decomposition of cumene α -hydroperoxide (I), in the presence of Co^{2+} , Mn^{2+} , Cu^{2+} , Fe^{2+} , Ni^{2+} and Na^{2+} stearates, in a solution of chlorobenzene, takes place with the formation of acetophenone and dimethylphenylcarbinol, as the main products of the reaction. The reaction rate is proportional to the I concentration and concentration of the catalyst in the first degree. The initial I concentration does not affect the catalytic rate constant which points to the absence of an induced decomposition of I. The catalytic activity decreases in the following series. $\text{Co}^{2+} > \text{Mn}^{2+} > \text{Cu}^{2+} > \text{Fe}^{2+} > \text{Ni}^{2+} > \text{Na}^{2+}$.
Zink stearate has no catalytic activity in relation to this reaction.

Card 1/2

80641
SOV/81-59-5-15248

The Catalytic Decomposition of Organic Peroxide Compounds. 2. The Kinetics of the Decomposition of Cumene α -Hydroperoxide, Catalyzed by Stearates of Certain Metals

The activation energy of the catalytic reaction is 2.5 times less than for the thermal decomposition and in the range of 40 - 90°C, in the case of Co^{2+} and Mn^{2+} , is equal to 12.3 kcal/mole and in the case of Cu^{2+} , 13.5 kcal/mole. ✓
It is assumed that the catalyst facilitates the first stage of the reaction, which is the decomposition of the I molecule with a break of the O - O bond into the OH^\cdot and $\text{C}_6\text{H}_5\text{C}(\text{CH}_3)_2\text{O}^\cdot$ radicals.

I. Moiseyev

Card 2/2

S/081/61/000/020/016/089
3101/B147

AUTHORS: Shchennikova, M. K., Shushunov, V. A., Milovanov, A. I.

TITLE: Catalytic decomposition of organic peroxide compounds. 9.
Influence of the length of the hydrocarbon chain of some
salts of fatty acids on their catalytic activity during
decomposition of cumene hydroperoxide

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 58 - 59,
abstract 20B442 (Tr. po khimii i khim. tekhnol. (Gor'kiy),
no. 2, 1960, 165 - 170)

TEXT: A study has been made of the decomposition of cumene hydroperoxide (I), catalyzed with cobalt salts of fatty acids in an equimolecular mixture of chlorobenzene and acetic acid. In particular, the effect of catalyst, temperature, and concentration of I on the reaction rate was investigated. The increase in reaction rate and the decrease in activation energy with increasing length of the carbon chains of cobalt-salt anions of monobasic fatty acids were found to follow certain rules. No such rule could be established for the cobalt salts of dibasic fatty acids. For Report VIII, Card 1/2

Catalytic decomposition of organic...

S/081/61/000/020/016/089
B101/B147

see RZhKhim, 1961, abstract 14Zh131. [Abstracter's note: Complete translation.]

✓

Card 2/2

SHCHENNIKOVA, T.F., aspirant

Fertilizers for corn in turf-Podzolic soils of Ivanovo Province.

Sbor. nauch. trud. Ivan. sel'khoz. inst. no. 21:158-174 '69.

(MIRA 18:5)

SHCHENNIKOVA, V.V., aspirant

Accuracy of the position of horizontals on plans at a scale of
1:2,000 in combined surveys. Izv.vys.ucheb.zav.; geod.i aerof.
no.6:85-95 '61. (MIRA 15:3)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i
kartografii.
(Aerial photogrammetry)

SHCHENNIKOVA, V.V., aspirant

Adjustment of analytical nets in geological prospecting.
Trudy MIIGAIK no.46:115-122 '61. (MIRA 15:7)

1. Kafedra geodezii Moskovskogo instituta inzhenerov geodezii,
aerofotos"yemki i kartografii.
(Geological surveys)

20-5-57/60

AUTHOR
TITLE

BULYGIN, I.A. and SHCHANNIKOVA, Z.D.
Interceptively Conditioned Reflexes from the Urinary Bladder after
Removal of the Thoracic Region of the Spinal Cord
(Interotseptivnyye uslovnnyye refleksy s mochevogo puzryra posle udale-
niya grudnogo otdela spinnogo mozga. Russian)
Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 5, pp 1120 - 1123(U.S.S.R.)

PERIODICAL
ABSTRACT

It was found, in agreement with several published data that a perfora-
tion and even a removal of the spinal cord from the 5th - 6th thoracic
vertebra to the sacral region does not exclude the possibility of imme-
diate interceptive influences by the urinary bladder on blood pressure
in the common carotid artery, on respiration, salivation and the head
movements of a dog. Based upon this fact the authors in a previous pub-
lication drew the conclusion that there do not only exist direct affe-
rent (basic) canals of the urinary bladder which enter the spinal cord
in the sacral region and which are connected with the brain by inner-
-central ascending canals, but that there also exist additional canals
which ascend along the sympathetic chains and extra-mural ganglions and
plexi. In this connection it was assumed that the afferent additional
canals are formed by the somatic afferent fibers which represent out-
growths of the high-located afferent cells of the intervertebral spi-
nal ganglions (located higher than the place of destruction in the spi-
nal cord), as well as by sympathetic afferent canals which have their

Card 1/3

20-5-57/60

Interoceptively Conditioned Reflexes from the Urinary Bladder after
Removal of the Thoracic Region of the Spinal Cord

origin in cells of type II by DEGEL in the urinary bladder. It was further realized in the laboratory of the authors that by the above-mentioned afferent additional canals the interoceptive influences can also be transferred from the urinary bladder onto the cortex of the great hemispheres. This is shown as well in the change of the exteroceptively caused shaking reflexes under the influence of a widening of the urinary bladder in rabbits with perforated spinal cord, as in the conservation in them of interoceptively (originating from the bladder) caused shaking reflexes. In this connection it seemed to be necessary to clear the problem of how high the afferent fibers can ascend which constitute the afferent additional canals through which the interoceptive influences can be transferred to the cortex of the brain. For this purpose the authors studied the possibility of a conservation of the interoceptive shaking reflexes (originating from the bladder) in rabbits with removed thoracic region. The test results, in agreement with other data obtained by the laboratory concerned, show that after destruction of important regions of the spinal cord the functional relations of the bladder (as a convenient interoceptive sample) with the brain cortex

(3 illustrations, 7 Slavic references)

SECRET
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PA 4T1

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Jan 1947

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S/149/51/000/002/004/017
A006/A001

AUTHORS: Levitskiy, E.A., Shchepachev, B.M.
TITLE: Developing a Method of Preparing Basic Salt of 5/6 Aluminum Oxy-
chloride

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya,
1961, No. 2, pp. 71 - 75

TEXT: To prepare aluminum oxide or hydroxide with required properties, reprecipitation of aluminum hydroxide is employed where aluminum hydroxide is converted into a soluble neutral salt by treatment with acid. This water-soluble product is subjected to reprecipitation by adding alkali which neutralizes the solvent. Since this process consumes large amounts of expensive reactive agents, reprecipitation would be improved by using a soluble aluminum compound which is closer to the hydroxide itself in respect to the chemical composition. E.A. Levitskiy proposed a method of precipitation aluminum hydroxide from a solution of basic salt - the 5/6 aluminum oxychloride ($Al_2(OH)_5Cl$). This method reduces the consumption of reactive agents for the reprecipitation of one ton of oxide by

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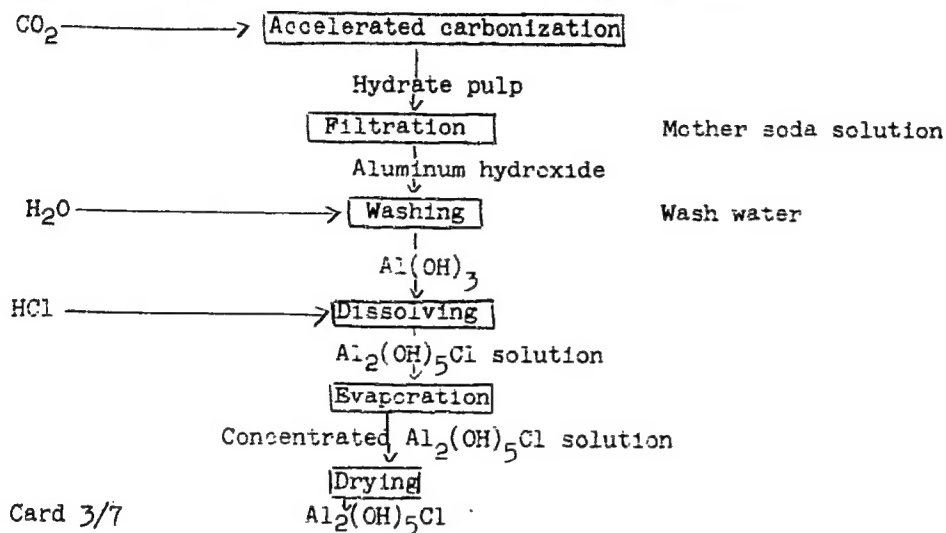
a factor of 4 - 6; the technology is simple and economical. $Al_2(OH)_5Cl$ is well soluble in water and offers a series of properties which make it extremely suitable for large-scale industrial use. This compound was studied by various authors, including Academician V.A. Kargin (Ref. 2 - 4), M.Ye. Shishniashvili and E.D. Uznadze (Ref. 5). Various investigations were made with 5/6 oxychloride of aluminum using synthetic methods (Ref. 4, 6 - 10), although none of the methods can be employed as a basis for an efficient industrial process. The authors developed a method of producing 5/6 aluminum oxychloride from semi-products of alumina industry by accelerated carbonization process, conducted according to the following scheme:

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Desilicificated aluminate solution of alumina production



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The aluminate solution intended for carbonization should not contain over 60-70 g/l Al_2O_3 at a 1.5 caustic ratio. The product is washed in distilled water. Filtration is recommended to be carried out in a vacuum-filter drum with subsequent repulping and repeated filtration. Dissolving of $Al(OH)_3$ in hydrochloric acid with the formation of 5/6 aluminum oxychloride does not depend on the concentration of the acid as stated by E.D. Uznadze and M.Ye. Shishniashvili (Ref. 5). The use of freshly precipitated aluminum hydroxide permits the use of hydrochloric acid of any concentration since this precipitate is able to interact with lower oxychlorides. The method of obtaining 5/6 aluminum oxychloride from $Al(OH)_3$ and hydrochloric acid is based on the conclusions made by V.A. Kargin and L.K. Lepin' (Ref. 4, 6) that each of the basic chlorides is stable within a certain pH range of the medium in the solution. The optimum pH value for 5/6 aluminum oxychloride is 4 - 4.5. Two methods of dissolving aluminum hydroxide in hydrochloric acid are suggested: 1) at a constant pH of the medium, mixing and heating (the pH value is maintained by adding HCl at a level of 4 - 4.5 (Ref. 16); 2) by adding the whole stoichiometric amount of HCl for the formation of $Al_2(OH)_5Cl$ with subsequent heating up to boiling and intensive stirring. Both methods may be combined. When dissolving $Al(OH)_3$ in HCl, solutions of $Al_2(OH)_5Cl$ with 80 - 140 g/l Al_2O_3 concentration are

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obtained. The density and viscosity of the solution, depending on Al_2O_3 concentration, are shown in Figures 2 and 3. When evaporated to a concentration of about 250 g/l of Al_2O_3 , the solution is gelled. The gel is dried to powder (Figures 4, 5). The weight of $Al_2(OH)_5Cl$ powder is 0.95 - 0.97 g/cm², at an average size of the particles of 1 - 2 mm. This product is well soluble in water and can be easily stored and transported.

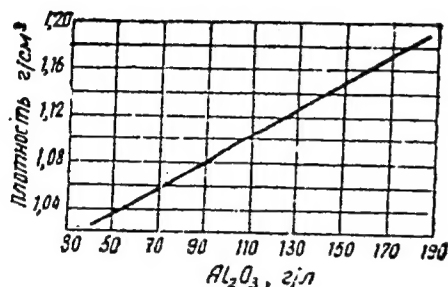


Figure 2:

Dependence of density of the $Al_2(OH)_5Cl$ solution on the concentration of Al_2O_3 at 20°C.

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Figure 3:

The dependence of viscosity of the $Al_2(OH)_5Cl$ solution on concentration of Al_2O_3 at $20^\circ C$

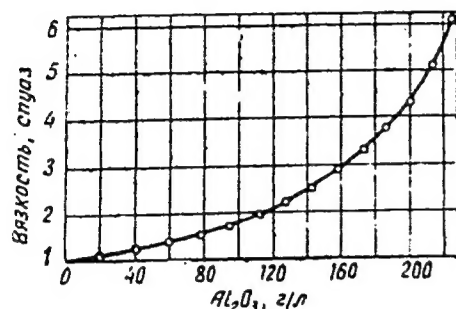
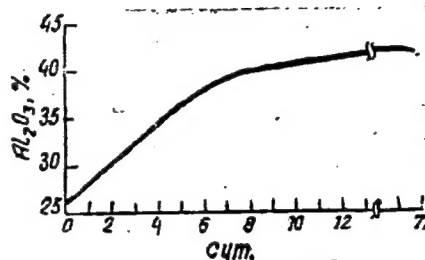


Figure 4:

Natural drying of $Al_2(OH)_5Cl$ gel at $20^\circ C$



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